

EXHIBIT C

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United States Court Reporter

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MONTANA
BILLINGS DIVISION

UNITED STATES FIDELITY AND)	
GUARANTY COMPANY,)	
	Plaintiff,)	CV-04-29-BLG-RFC
and)	
)	VOLUME 3
CONTINENTAL INSURANCE COMPANY,)	TRANSCRIPT OF JURY TRIAL
Plaintiff Intervenor,)	
vs.)	
)	
SOCO WEST, INC., BRILLIANT)	
NATIONAL SERVICES, INC.,)	
STINNES CORPORATION, and)	
BRENNTAG (HOLDING) N.V.,)	
Defendants.))	
_____)	

BEFORE THE HONORABLE RICHARD F. CEBULL
UNITED STATES DISTRICT COURT JUDGE
FOR THE DISTRICT OF MONTANA

James F. Battin United States Courthouse
316 North 26th Street
Billings, Montana 59101
Wednesday, January 24, 2007
08:30:28 to 16:25:01

Proceedings recorded by machine shorthand
Transcript produced by computer-assisted transcription

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1 **A Yes.**
 2 Q All right. And so whatever was in the dirt and so forth
 3 that was under these tanks was now under the fly ash where the
 4 catch pond used to be?
 5 **A Yes.**
 6 Q Right. Okay.
 7 The way in which a spill in the loading and unloading
 8 area -- maybe I'll try this -- here would get to the catch
 9 pond was through a series of channels in the ground, right?
 10 Wasn't there a ditch going sort of like this -- boy, this is
 11 bad -- and then another one inside the berm going up like
 12 that? Is that correct?
 13 **A Yes.**
 14 Q And those were in existence actually when you started at
 15 Dyce, weren't they?
 16 **A Yes.**
 17 Q They were dirt, and they were there when you got there?
 18 **A Yes.**
 19 Q All right. And, in fact, both those ditches flanked the
 20 loading and unloading area so if there was a spill there, the
 21 chemical wouldn't get out into the pasture or the grass and so
 22 forth, correct?
 23 **A Yes.**
 24 Q Now I think you testified that for at least part of the
 25 distance on the 1975 picture, you said there was a berm

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1 somewhere in that area. You could look at the -- I'll give it
 2 to you both ways. I've drawn it in on the picture on the
 3 computer, but you said there was a small berm that kind of
 4 curved around. I think Mr. Mielenhausen asked you this.
 5 **A Yes.**
 6 Q Somewhere in through here, right?
 7 **A Yes.**
 8 Q But these ditches that led to the catch pond obviously
 9 were designed to get through that berm in order to get
 10 spillage and drainage and stormwater and what-have-you from
 11 the loading and unloading area to that catch pond?
 12 **A Yes.**
 13 Q All right. That's the only way you could keep chemicals
 14 from getting where you didn't want them, or at least residues,
 15 correct?
 16 **A Pardon?**
 17 Q That was how you kept -- I'll withdraw the question.
 18 Make it easier.
 19 Generally, generally, in its natural state, the property
 20 sloped in this direction; isn't that right?
 21 **A Yes.**
 22 Q From here to here?
 23 **A It sloped from here down this way.**
 24 Q Okay. Now there was a fair amount of testimony earlier
 25 this afternoon. You were shown a bunch of paper records,

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1 paper rules and regulations and procedures, internal stuff
 2 that Dyce was using, right?
 3 **A Yes.**
 4 Q And those were all, I think, dated '83, '84, '85. Do you
 5 recall that?
 6 **A Yes.**
 7 Q And it's a fairly elaborate list of do's and don'ts,
 8 right?
 9 **A Yes.**
 10 Q And you said, I believe in response to Mr. Mielenhausen,
 11 that everything on those pages was in effect by way of verbal
 12 rules and regulations that existed from the time you started
 13 in late 1974.
 14 **A Yes.**
 15 Q All right. Some of those rules dealt with loading and
 16 unloading chemical. Do you recall that?
 17 **A Yes.**
 18 Q All right. And some of them also -- and I don't know
 19 that these were pointed out particularly, and forgive me if
 20 I'm asking you something you've already been asked, but in
 21 order to make those rules and safety procedures effective, the
 22 person who is in charge of loading or unloading a chemical
 23 needs to be watching the operation and staying close by? Just
 24 obvious, isn't it?
 25 **A He should be.**

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1 Q Right. It would be a violation of the rules for somebody
 2 to start a pumping operation and then leave the site?
 3 **A Yes.**
 4 Q Not a good idea?
 5 **A Not a good one.**
 6 Q All right. And the rule, the rule about not leaving the
 7 site, that's one of those rules that was there from day one
 8 for you as well, correct?
 9 **A Yes.**
 10 Q Do you know what would happen to asphalt if perc were to
 11 spill on asphalt?
 12 **A It would eat it up.**
 13 Q It would eat it up?
 14 **A Destroy it, yes.**
 15 Q Destroy it.
 16 And what would happen if there was a puddle of perc and
 17 the tire to a car or truck were sitting in it? It would eat
 18 the rubber of that tire, wouldn't it?
 19 **A It would work on it, yes.**
 20 Q It would work on it, just like it would work on a rubber
 21 hose, right?
 22 **A Yes.**
 23 Q In addition to working with hoses, different hoses,
 24 different chemicals, cleaning them before they're used in
 25 another operation, you had to do the same thing with the

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1 pumps, wouldn't you, because the chemical would get in the
 2 pump as well?
 3 **A We had individual pumps.**
 4 Q The same way you had individual hoses?
 5 **A Yes.**
 6 Q Right. But if you were switching from, say, pumping perc
 7 to TCE, you'd have to also rinse out the pump in order to not
 8 contaminate the chemical being sold to the second customer,
 9 right?
 10 **A If you rinsed out the pump, then you're contaminated with**
 11 **water.**
 12 Q Well, isn't there a place -- so you didn't rinse out the
 13 pumps?
 14 **A Pardon?**
 15 Q So did you or did you not rinse out the pumps?
 16 **A We had separate pumps.**
 17 Q So did you have a separate pump for PCE and a separate --
 18 or excuse me.
 19 Did you have a separate pump for perc and a separate
 20 pump, for example, for TCE?
 21 **A TCE came all in drums, as I remember.**
 22 Q All right. So you bought it in drums. You sold it in
 23 drums. You didn't have to move it back and forth? Is that
 24 what you're saying?
 25 **A That's correct.**

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1 Q All right. Were there any -- so while you had to rinse
 2 hoses from time to time, that wasn't a problem or an issue
 3 with respect to pumps; is that right?
 4 **A Right.**
 5 Q Okay. Have you ever smelled perc?
 6 **A Yes, I've smelled it.**
 7 Q Does it have an odor?
 8 **A Yes.**
 9 Q And what does it smell like?
 10 **A Perc.**
 11 Q It smells like perc. It's a strong odor; is that a fair
 12 statement?
 13 **A Fairly strong.**
 14 Q And it can even be overwhelming if you breathe in enough
 15 of it?
 16 **A I don't know as it would overwhelm you or not. I'm sure**
 17 **it wouldn't be good for you.**
 18 Q Have you ever, for example, put your head inside a
 19 barrel, put your head down by a barrel of, say, half a barrel
 20 of perc and just taken a whiff?
 21 **A Not a big one.**
 22 Q Because that would not be very pleasant, would it?
 23 **A No.**
 24 Q Right.
 25 Now there's a lot of activity at a chemical distribution

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1 plant like Dyce. There's a lot of activity in that loading
 2 and unloading area, isn't there? There's a lot going on
 3 there? Trucks are coming? Trucks are going? Hoses are being
 4 let to that area? Hoses are coming from that area? It's a
 5 lot of activity in a relatively small place. Wouldn't you say
 6 that's a fair statement?
 7 **A There would be quite a little of that.**
 8 Q Beg your pardon?
 9 **A There would be quite a little activity.**
 10 Q All right. And did -- during your time at Dyce, did the
 11 company make efforts to keep that area clean? And by that I
 12 mean free of things to, say, trip over, free of things to slip
 13 on accidentally? Was there an effort made to do that?
 14 **A Yes. That would be part of the housekeeping.**
 15 Q Right. And in the wintertime, that would be a very bad
 16 place to allow to get icy, for example, wouldn't it?
 17 **A It got pretty icy.**
 18 Q Did you ever clean any ice?
 19 **A (No response.)**
 20 Q Or put salt down to deice?
 21 **A Usually, if anything, we just used a little salt.**
 22 Q So people wouldn't slip? The salt would break up the
 23 ice --
 24 **A Yes.**
 25 Q -- and be clean, right?

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1 **A Um-hmm, yes.**
 2 Q Okay. Thank you.
 3 Now these ditches out here, do you see those in that
 4 indentation?
 5 **A Yes.**
 6 Q That's not the ditch that leads to the catch pond, right?
 7 **A I misunderstood you there.**
 8 Q That is not the ditch that goes to the catch pond?
 9 That's a different ditch, right?
 10 **A That's a different ditch, yes.**
 11 Q Right. And that ditch, if there was, for example,
 12 rainwater down here, it might get into that ditch and go in
 13 that direction; something like that, right?
 14 **A Yes.**
 15 Q Okay. Can you, back in the mid '70s, can you describe
 16 for us what was in these ditches? Was it loose dirt?
 17 Compacted dirt? Was it gravel? Was it -- I don't mean to ask
 18 you a bunch of questions, but I want to get that kind of
 19 description, if I could, of those ditches.
 20 **A This ditch here was loose.**
 21 Q Loose?
 22 **A Loose dirt or just natural-laid dirt. And this one here**
 23 **was compacted.**
 24 Q When you say "this one here," the second one you
 25 mentioned, that's the one that goes inside the berm to the

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1 catch pond; is that right?

2 **A Yes.**

3 Q And that's the one that was there when you got there,

4 right?

5 **A Yes.**

6 Q Now you mentioned that from time to time over your years

7 at Dyce there were temporary workers that got hired. Do you

8 recall that testimony?

9 **A Yes.**

10 Q And do you recall that Desmond Slater was one of those

11 temporary workers?

12 **A Who?**

13 Q Desmond Slater. Do you recall him?

14 **A I don't recall him.**

15 MR. GROSSBART: All right. For the record, it is an

16 admitted fact in the pretrial order that Mr. Slater worked at

17 Dyce, quote, from the summer to the fall 1976. That's in our

18 stipulation.

19 MR. MIELENHAUSEN: I agree, Your Honor.

20 BY MR. GROSSBART:

21 Q With those dates in mind, that doesn't refresh your

22 recollection as to Mr. Slater at all?

23 **A No, it don't.**

24 Q Okay. You mentioned that if it were to spill on asphalt,

25 perc would eat it up pretty good. I think those were your

Page 749

1 words, right?

2 **A It would eat it, yes.**

3 Q Eat it up. Maybe not good, but it would eat it.

4 All right. Did you ever see a condition on the asphalt

5 area -- and, by the way, in 1975 in this picture, this is all

6 asphalt, right?

7 **A It was asphalted in 1975, as I remember.**

8 Q All right. As a matter of fact, it's very distinct, this

9 sort of serrated edge. Is that the asphalt border that we're

10 seeing? Is that why it goes from dark to light?

11 **A I believe so.**

12 Q All right. And that stayed asphalt for how long? Until

13 it was concreted, correct?

14 **A Until the late '80s.**

15 Q Until the mid '80s? Later?

16 **A Yes.**

17 Q All right. Did you ever see that asphalt affected or

18 impacted by a spill of chlorinated solvents?

19 **A No.**

20 Q You talked a little bit about skids or totes. Do you

21 recall that?

22 **A Yes.**

23 Q How many, in the '70s, how many skids or totes, if you

24 recall, did Dyce have?

25 **A I can't tell you the number.**

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1 Q Was it more than one?

2 **A They had for different products. Now do you want -- they**

3 **had just one for perc.**

4 Q I'm sorry. Just, if you can, generally, approximately,

5 how many different totes, different skid tanks?

6 **A For all of the products. Probably about 15.**

7 Q Fifteen different skid tanks or totes?

8 **A Yes.**

9 Q Skids? Do you call them skid tanks or skids?

10 **A We called them skid tanks. Some people call them totes.**

11 **They're the same thing.**

12 Q So if somebody says "tote" or "skid" or "skid tank,"

13 there's three ways to talk about the same thing, right?

14 **A Right.**

15 Q Okay. And when the skid tanks were not in use, were they

16 stored up there with the barrels?

17 **A (No response.)**

18 Q Let me put a picture up.

19 All right. I'm going to direct your attention to one of

20 the exhibits we talked about on direct examination. It's

21 Exhibit 3492. Let's put it up also on the monitors, if we

22 could.

23 (Discussion off the record.)

24 BY MR. GROSSBART:

25 Q I'll tell you what. In the interest of time, let's work

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1 without it.

2 3492, what are these things out here? Did you talk about

3 those? Are those barrels?

4 **A That would be some of the skid tanks.**

5 Q Those would be skid -- what about along here?

6 **A Those would be barrels.**

7 Q Those would be barrels. These would be skid tanks?

8 Okay.

9 **A Yes.**

10 Q And are any of those -- is that where you would keep a

11 perc skid tank?

12 **A Your perc skid tank was kept in under the shed, this one**

13 **here.**

14 Q Dueling lasers there. Okay.

15 **A Because we didn't want water to --**

16 Q Okay.

17 **A -- get into it by some means.**

18 MR. MIELENHAUSEN: Your Honor, could the witness

19 again indicate? There were two lasers, and it was kind of

20 confusing.

21 MR. GROSSBART: I'm sorry.

22 THE COURT: Pardon?

23 MR. MIELENHAUSEN: Could the witness again indicate

24 where he was pointing to? Because there were two lasers.

25 THE COURT: Sure. Do it again.

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FOR THE DISTRICT OF MONTANA
BILLINGS DIVISION

UNITED STATES FIDELITY AND)	
GUARANTY COMPANY,)	
)	Plaintiff,
and)	CV-04-29-BLG-RFC
)	VOLUME 4
CONTINENTAL INSURANCE COMPANY,)	TRANSCRIPT OF JURY TRIAL
Plaintiff Intervenor,)	
vs.)	
)	
SOCO WEST, INC., BRILLIANT)	
NATIONAL SERVICES, INC.,)	
STINNES CORPORATION, and)	
BRENNTAG (HOLDING) N.V.,)	
)	Defendants.)
_____)	

BEFORE THE HONORABLE RICHARD F. CEBULL
UNITED STATES DISTRICT COURT JUDGE
FOR THE DISTRICT OF MONTANA

James F. Battin United States Courthouse
316 North 26th Street
Billings, Montana 59101
Thursday, January 25, 2007
08:37:40 to 16:47:40

Proceedings recorded by machine shorthand
Transcript produced by computer-assisted transcription

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1 **drums. Perchloroethylene, methylene chloride,**
 2 **trichloroethane, trichloroethylene, and even carbon tet.**
 3 Q Now TCE, what is that?
 4 A **Pardon?**
 5 Q TCE, what is that chemical?
 6 A **Trichloroethylene.**
 7 Q All right. Was perc the only one that was delivered in
 8 bulk?
 9 A **Yes.**
 10 Q And did you also deliver xylene in drums?
 11 A **Yes, we did.**
 12 Q Did you deliver toluene in drums?
 13 A **Yes.**
 14 Q Now all these chemicals that were delivered in drums that
 15 I've just described, were the drums that these chemicals were
 16 in, were they drums that were returned to Dyce from the '70s
 17 through '90s?
 18 A **Yes.**
 19 Q And were all of these drums, when they were brought back
 20 to Dyce, stored on the site until they were picked up by the
 21 reconditioner?
 22 A **Yes.**
 23 Q Did you ever observe anyone dumping any residue from
 24 these drums that were waiting to be sent to the reconditioner?
 25 A **No, not on the ground. I mean, they dumped them into**

Page 912

1 **other drums at times with their 5-gallon buckets.**
 2 Q But you never observed anybody dumping them on the
 3 ground?
 4 A **Never.**
 5 Q Did anyone ever report to you the dumping of residue from
 6 empty drums on the ground at any time?
 7 A **Never.**
 8 Q Are you aware of any sludge or contaminated soil that's
 9 been disposed on the site?
 10 A **Seems like there was some sludge in the '90s that was**
 11 **disposed of at the city dump after it was tested.**
 12 Q Was there any sludge or contaminated soil disposed of on
 13 the Dyce site?
 14 A **No, no.**
 15 Q Was there any cleaning of drums at the Dyce site at any
 16 time from 1973 through, say, 2000?
 17 A **There was a year or so we did some steam cleaning of**
 18 **drums on the south side.**
 19 Q Can you point to where on the map that steam cleaning
 20 would have been done?
 21 A **It would have been right next to the door right here.**
 22 **Right here.**
 23 Q And that's on the south side of the large warehouse?
 24 A **Yes.**
 25 Q And do you know, do you remember what years, when -- how

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1 long did you mention that was being done?
 2 A **A year or so. I know we did not do it very long, but I**
 3 **can't give you an exact number of months or --**
 4 Q Do you remember the year, roughly?
 5 A **It was probably around '74, '75, or '76. Somewhere in**
 6 **that time range.**
 7 Q Okay. Do you know whether any other drum cleaning was
 8 done at any other time on the site at any other location on
 9 the property?
 10 A **No.**
 11 Q Is that a no, you don't know, or no --
 12 A **I don't know of any.**
 13 Q Okay. Mr. Naff, have you ever seen the effect of perc on
 14 asphalt?
 15 A **Perc or similar product.**
 16 Q Have you seen how long it takes for perc to have an
 17 effect on asphalt?
 18 A **Oh, well, depending on temperature and a lot of things,**
 19 **but I'd say -- and the amount of perc. A few drops, you're**
 20 **not going to notice. If there was a puddle there, you would**
 21 **see it get gummy.**
 22 Q And how long would that typically take, from your
 23 observation?
 24 A **Oh, depending on the amount, maybe a half hour to a**
 25 **couple hours.**

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1 Q Mr. Naff, during the unloading and loading of perc --
 2 have you ever observed that, the loading and unloading of
 3 perc?
 4 A **Yes, I have.**
 5 Q Is there a smell in the air when that happens?
 6 A **Yes.**
 7 Q And what does that smell of?
 8 A **Like perc at the drycleaners.**
 9 Q And is it a pretty noticeable smell?
 10 A **Very, yes.**
 11 Q And that occurs during the loading and unloading process?
 12 A **Right, and drumming process.**
 13 Q You don't need a spill to smell that?
 14 A **No.**
 15 Q Mr. Naff, when did Mr. Quentin pass away?
 16 A **In --**
 17 Q Pardon me. Mr. Dyce.
 18 A **In 1995.**
 19 Q And how long had you known him before then?
 20 A **Since 1972.**
 21 Q Mr. Naff, during those years, did you have an opportunity
 22 to observe Mr. Dyce's business practices?
 23 A **Yes.**
 24 Q Did you ever observe Mr. Dyce try to cut corners on
 25 safety issues?

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UNITED STATES DISTRICT COURT JUDGE
FOR THE DISTRICT OF MONTANA

James F. Battin United States Courthouse
316 North 26th Street
Billings, Montana 59101
Monday, January 29, 2007
08:53:01 to 16:53:52

Proceedings recorded by machine shorthand
Transcript produced by computer-assisted transcription

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12 For the Plaintiff and Plaintiff Intervenor:

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1 The city, the city delivery person did that. So he would be
 2 the one that could -- although I have been involved with it,
 3 I've gone with them, I've, on occasion, made it, so I know
 4 some of the problems, but I didn't do it regularly.

5 "But the way I recall it, one of the problems we had,
 6 when we got all done filling the customer's delivery of this
 7 from the skid, our skid tank to his container or whatever, is
 8 we had no way of reversing the pump to suck it back into our
 9 tank like we did when we were on site at our premises. So
 10 we'd have an inch and a half, I believe it was, hose, which
 11 was on a reel, which was maybe 100-foot long, because we'd
 12 park in the alley, or maybe out in the street, or wherever we
 13 had to make our delivery, so we'd have to reel this in to
 14 wherever we're loading it. When he's full, you shut your pump
 15 and your valve off. Well, now you've got a whole bunch of
 16 product all the way in the line. Well, it's contained because
 17 you've got the valve shut off and the pump shut off, but
 18 you've still got the product all in that hose. So then you'd
 19 go and load it back on the truck, and you'd reel it back in,
 20 and you hope that the valve doesn't get bumped and open the
 21 valve, which, that does happen and has happened.

22 "But, anyway, you get back to the plant, our place. Then
 23 you usually leave the product in the hose -- in the tank
 24 itself, because that's all that tank is used for. But we'd
 25 try to drain the perc from the hose reel into our skid tank.

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1 "But it was kind of a -- it was an ugly mess. I mean, it
 2 was -- there was no real easy way of doing it. A lot of times
 3 I wasn't involved with that because the city delivery kid -- I
 4 call him a kid because he was younger than me, but he wasn't a
 5 kid. But the city delivery person, he usually had to take
 6 care of that. Sometimes he'd ask for help and I'd go over to
 7 help him, if it's a matter of holding up a hose or things like
 8 that, but overall he took care of most of that.

9 Q "Did you ever see perc spilled during that process?
 10 A "Yes.

11 Q "Tell me about that.
 12 A "Well, if you've got 100-foot of hose and it's got
 13 product, full product in it, I would guess -- this is just a
 14 guess -- that, well, just say that's, we'll say that's
 15 20 gallons of perc. Well, something's got to happen to that.
 16 We're trying to drain it back into the skid, and just like a
 17 garden hose at home when you're walking it, you can't always
 18 control it. You're working with something with heavy product.
 19 The hose, the chemical hose is heavy, and you're trying to
 20 keep the drumming nozzle down into the thing so it doesn't
 21 jump out while you're doing it. And if you're doing this by
 22 yourself, it's a hard task to do. If everything works right,
 23 it works fine, but if the hose jumps out or the valve you've
 24 got into the skid gets bumped or when you're moving it, it
 25 comes out, well, you hurry up and close it up. But, I mean,

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1 so, yes, it does happen. It did happen.

2 Q "Do you know how often perc was spilled that way?
 3 A "Per week, per month, per year, or the time I was there?
 4 Q "Per week.
 5 A "There again, it depends on whether or not we had any
 6 deliveries of that. But, well, see, we might go along and not
 7 have any deliveries for two or three weeks, so I guess I can't
 8 really say per week. I mean --

9 Q "How about per year?
 10 A "Yeah, I'd feel better on a yearly basis because I could,
 11 you know, have a longer period to make a guess. Probably five
 12 times in a year.

13 Q "Would that be five times in a year where you were there
 14 and you saw it and had a part in it, or five times where you
 15 just -- you think it happened when someone else was doing it?
 16 A "No, five times when I know it happened.

17 Q "Do you think it happened when you weren't there since
 18 you weren't the person doing it most of the time?
 19 A "I'd have to speculate and say yes, probably some was
 20 spilled.

21 Q "Was it usually done by one person draining that hose
 22 back into the skid tank?
 23 A "Yes.

24 Q "And that's the time when it was most -- those were the
 25 conditions under which you were most likely to spill, when you

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1 were trying to do it by yourself?
 2 A "Yes.

3 Q "How much would spill when you had a spill that way?
 4 A "Five gallons.
 5 Q "Five gallons of perc.
 6 A "(Nodded head affirmatively.)
 7 Q "And where did it go?
 8 A "In those trenches as you go down to the catch pond.

9 Q "When it spilled out, did it spill onto the asphalt, or
 10 did it spill onto open dirt?
 11 A "Usually, whenever, whenever we were handling this perc
 12 and the skid and everything, we usually parked it right over
 13 this number 10, ditch, which came out over where truck traffic
 14 went, which had a metal grate, and we'd park right over that
 15 metal grate.

16 Q "Why did you do that?
 17 A "Well, so if you did spill it, it wouldn't be out on the
 18 dirt, and it wouldn't be on the asphalt. Perc acted on
 19 asphalt just like xylene and toluene. It would eat it up, you
 20 know. So we tried to park it over there as opposed to
 21 somewhere else on the asphalt because if you spill the perc
 22 onto the asphalt, it just worked against the asphalt. So we
 23 parked it over the grate so it would, you know, be contained
 24 there and go down to our catch pond.

25 "We also tried to catch it with buckets as much as we

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1 "I remember, because it -- although I wasn't involved in
2 the decision-making or anything, I still handled it when it
3 came back. And it was kind of a yellowish -- a real pretty
4 yellowish lining that went in on the inside.

5 "Now I don't know what the purpose of the lining was,
6 because the tank was a steel tank. And to my knowledge, all
7 the years I worked there, I never seen any leakage either --
8 although this was on the gravel or on the ground -- I mean, I
9 never seen any leakage all the years that I handled it. But
10 they suspected a leakage for some reason.

11 "They know more than I do about some stuff, and maybe
12 they -- you know, maybe it came out of the tank some
13 mysterious way or something. But, anyway, they went and got
14 it lined, and I don't know if that was to help prevent leakage
15 or evaporation. I think I had heard something about they
16 thought maybe evaporation was taking place, you know. Because
17 it was a sealed tank.

18 "As far as I knew, it was sealed. Because when -- that
19 spin nut that I pulled out, it had a gasket on it, and I
20 periodically had to watch that gasket, and if it started
21 getting warm from being opened and closed so much -- because
22 whenever I filled it, we had it open, and we would replace
23 that top gasket. But whenever we closed it, to my knowledge,
24 it was still pretty well sealed up.

25 "It might have had, oh, what we call a vent, a release

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1 pressure vent thing that, I guess, was made to stop pressure
2 and venting. But overall that tank was a -- pretty much a
3 self-sealed thing.

4 "I personally didn't buy into the fact that it was
5 leaking because I couldn't see or smell. Perc is an extremely
6 strong-smelling product, and if you, you spill it on the
7 ground, especially if you've got dirt, which, the tank was
8 sitting on dirt and gravel, that perc smell is like diesel
9 fuel. It would have stayed there. And I, I never bought into
10 that business of being -- leaking.

11 Q "The ground beneath that tank was --

12 A "Gravel and dirt.

13 Q "-- not asphalt. It was dirt and gravel?

14 A "(Nodded head affirmatively.)

15 Q "Do you recall any further problems with discrepancies in
16 the amount of perc in that tank after that lining was
17 installed?

18 A "Well, after we got that tank back and everything put
19 back together, it was basically the same tank as before, only
20 maybe they pressure-tested it before they put the lining in.
21 And then after that, no, I think the conversation -- I
22 personally feel they just started doing a little better job of
23 recordkeeping, is what I think happened.

24 Q "Can you indicate on the map for me where that perc tank
25 was?

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1 A "Yes. It was right over in the work area where ...

2 Q "And you're indicating on Exhibit 1 here.

3 A "It was over here near where my -- well, about halfway
4 between the shop, which is number 1 and -- what's number 7?

5 Q "The semi loading and unloading area.

6 A "Oh, yeah, that's right. It was in between number 1 and
7 number 7, right down here where my drumming shed was, which we
8 don't have identified, but that would be right in here. So it
9 would be right about -- the camera can't pick this up, but it
10 would be right in this area here. It would be here. It would
11 be real near that number 11, the ditch. It would be near
12 that. Right in here.

13 Q "Can you make an X and mark a number 14 next to the area
14 that you're describing?

15 A "(Complied with request.)

16 Q "And go ahead and write 14 next to that X.

17 A "Oh, right on the thing itself?

18 Q "Yeah.

19 A "(Complied with request.)

20 Q "Do you know why they started doing safety meetings?

21 A "I've got my own feelings, although I think they kind of
22 told us, too. But OSHA and chemicals started becoming --
23 people in the public and laws were changing, so they were
24 trying to keep themselves abreast of the requirements put on
25 them by federal laws and things of that nature, so I think

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1 that's probably why.

2 Q "Okay. I'm going to hand you a document that is labeled
3 'Dyce Chemical' in the upper left-hand corner, and it has a
4 Bates stamp in the upper right-hand corner of 000553. Can you
5 tell me what that document is?"

6 (Pause.)

7 THE WITNESS: "Do you want me to read all this and
8 then to answer you that or --"

9 BY MR. RUGGIERO:

10 Q "Just look at it enough that you know what it is.

11 A "Yeah. It's, like it says at the very top, it says,
12 'Warehouse Quarterly Breakfast Meeting, Thursday, May 1,
13 1986.' It's probably a brief note of what was transcribed on
14 that meeting that day. It's not signed by anybody, but --

15 Q "Does your name appear in the first paragraph?

16 A "Can I read out loud or just read it to myself?

17 Q "Sure.

18 A "'The quarterly warehouse breakfast meeting was held'" --

19 MR. MICKELSON: Your Honor, we would offer Proposed
20 Exhibit No. 84.

21 MR. MIELENHAUSEN: No objection, Your Honor.

22 THE COURT: What number is it? Eighty-four is
23 admitted. Thank you.

24 MR. MICKELSON: Thank you.

25 (Plaintiffs' Exhibit 84 was received in evidence.)

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1 sake of -- may I again, approach, Judge, to put up another
 2 exhibit?
 3 THE COURT: Yes.
 4 BY MR. DAVIS:
 5 Q And perhaps, Doctor -- or Dr. Dale, Professor Dale, could
 6 you get down, with the Court's permission, and explain to the
 7 jury your understanding of the pathway that Dr. Harris has
 8 posited the perc spill in the loading area would have taken?
 9 THE COURT: Can you speak -- and you may approach,
 10 but can you speak loud enough without this microphone?
 11 THE WITNESS: I'll try, Your Honor. Yes, I will.
 12 I'll use my classroom voice.
 13 THE COURT: Good.
 14 THE WITNESS: The way I understand it is that
 15 Dr. Harris believes that perc spilled in this general area
 16 would go this direction, toward the small warehouse, make a
 17 turn, come over this direction, and make another turn in this,
 18 I guess, alleyway, you'd call it, and then hit the ditch
 19 that's at the bottom of the alleyway, flow along this ditch
 20 out here until it, you know, discharges somewhere up here in
 21 this area.
 22 BY MR. DAVIS:
 23 Q All right. Let's assume hypothetically that the perc,
 24 all by itself, since the garden hose isn't going to move it,
 25 this 48-foot puddle of perc behaves in the manner that

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1 Professor Harris has suggested. What physical evidence, if
 2 every drop of this 2 tons of perc manages to follow that path,
 3 and we'll return to that subject in a minute, what would be
 4 left in the loading area?
 5 A Well, you'd see a large area of the asphalt that was
 6 destroyed. And as the perc traveled along that pathway,
 7 remember, this is, you know, this is not just a small,
 8 quarter-inch-deep puddle of perc. We're talking about several
 9 inches deep. It's dissolved some asphalt. It's going to
 10 leave a bathtub ring of asphalt all the way down on the sides
 11 of buildings. It's going to leave that on the gravel as it
 12 evaporates.
 13 Q Well, that brings me to the next subject. So apart from
 14 the physical evidence after the fact, do you believe that if
 15 there is a 250-gallon spill of perc in the loading area,
 16 250-gallons, the same 250 gallons would have made it to the
 17 ditch?
 18 A No, absolutely not.
 19 Q Why not, sir?
 20 MR. LYNCH: Your Honor, may we have a sidebar on
 21 this topic?
 22 THE COURT: Yes.
 23 MR. LYNCH: We have an objection that this is beyond
 24 the scope of his expert report.
 25 (Discussion on the record at sidebar.)

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1 THE COURT: The question is, Would the 250 gallons
 2 have made it to the bottom where they claim it did, and you're
 3 claiming that this is beyond the disclosures. Let me see your
 4 report.
 5 MR. LYNCH: That's the only thing that mentions mode
 6 of operation (handing).
 7 (Pause.)
 8 THE COURT: Is it disclosed in here what he's about
 9 to say?
 10 MR. DAVIS: That it evaporates fast. That's the
 11 point.
 12 MR. LYNCH: And I asked him about this same topic at
 13 his deposition, about that page and the next page.
 14 THE COURT: How -- oh, okay. It's in his
 15 deposition.
 16 (Pause.)
 17 THE COURT: Well, my rule is if they disclose it in
 18 a report or if a deposition is taken and they disclose it at
 19 the time of deposition, that's good enough, so the objection
 20 is overruled.
 21 Thank you.
 22 (Open court.)
 23 (Jury present.)
 24 BY MR. DAVIS:
 25 Q Why don't you believe that 250 gallons, if there was a

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1 250-gallon spill, 250 gallons of perc would have made it down
 2 to the end of the railroad ditch?
 3 A Some is going to be left behind in a gooey mess with the
 4 asphalt that's dissolved, and some of it is going to be
 5 evaporated. Most of it.
 6 Q Why most of it?
 7 A Well, perc evaporates very rapidly. As it moves, it gets
 8 more surface area to spread out so it can evaporate more
 9 quickly.
 10 Q Well, I simply asked you, looking at Exhibit 2533, where
 11 the ditches end. Do you remember that?
 12 A Where the ditches end?
 13 Q Yes.
 14 A Yes.
 15 Q Can you see that on Exhibit 2533?
 16 A Yes.
 17 Q Is that the northwest corner?
 18 A No, it's not.
 19 MR. DAVIS: May I again approach, Judge?
 20 THE COURT: Yes.
 21 MR. DAVIS: I've run out of space. May I leave it
 22 here for a second?
 23 THE COURT: Yeah. Take those down or whatever.
 24 MR. DAVIS: Well, I want them to have both, the jury
 25 to see both.

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1 for a directed verdict. I think there is sufficient evidence
2 upon which a jury could find in favor of Soco West, but, boy,
3 this is thin.

4 So let's get the jury in here and get moving.

5 MR. MICKELSON: Thank you, Your Honor.

6 (Jury present.)

7 THE COURT: Please be seated.

8 You may continue.

9 BY MR. DAVIS:

10 Q I think when we broke, Professor Dale, I'd asked you what
11 your recollection was of the minimum size of the spill that
12 Soco is contending, in its operational area, caused the perc
13 contamination.

14 A 250 gallons.

15 Q Is it possible to calculate what kind of spill that would
16 have created?

17 A Yes, it is.

18 Q How?

19 A Well, we have standard methods in physical and chemical
20 engineering, based on the properties of the fluid, how far a
21 liquid will spread out.

22 Q How do you do that?

23 A Well, it depends on what's called the surface tension.

24 That's how tightly the molecules hold together; once again,
25 the density, the viscosity of the fluid. Just pretty much the

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1 standard equations to use to do that.

2 Q Is this a Bruce Dale formula, or is it --

3 A No, this is published in a magazine called Chemical
4 Engineering Progress, and it's the standard reference work for
5 our field.

6 Q So what did you do?

7 A I just applied it to a spill of perc of 250 gallons. I
8 took the properties of perc and, you know, figured out how far
9 a spill would spread out.

10 Q And is there a demonstrative exhibit that's been prepared
11 that would help illustrate what you've done?

12 A Yes, there is.

13 Q And first of all, you might as well, before I put up the
14 exhibit, tell us the answer.

15 A Well, a spill of 250 gallons of perc on a level surface,
16 I assumed concrete, level surface, would spread out about
17 48 feet in diameter. That's roughly -- actually this
18 courtroom is roughly 40 feet side to side, so it's a little
19 bit further than, you know, the whole width of the courtroom.

20 Q How do you know it's 40 feet from side to side?

21 A Well, I'm an engineer. I count things. Those are 2-by-4
22 panels, and there's, you know, 19 of them and then plus two
23 halves. It's about 40 feet. And I paced it off, too.

24 Q All right.

25 A So...

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1 Q Would that have taken up much space in the loading area?

2 A Yeah. It would have taken up almost all of the loading
3 area.

4 MR. DAVIS: Can we show the jury Demonstrative
5 Exhibit 4216?

6 THE COURT: What's the number?

7 MR. DAVIS: 4216.

8 THE COURT: 4216. The same --

9 MR. DAVIS: Demonstrative.

10 THE COURT: Well, it's really illustrative.

11 MR. DAVIS: Illustrative.

12 THE COURT: And I will admit 4216 for illustrative
13 purposes, and any other of the charts that he has made to
14 demonstrate and illustrate primarily his testimony.

15 MR. DAVIS: May we have -- as with everything else,
16 here, Judge, we have a board, so may I pull the board out and
17 put it on the easel?

18 THE COURT: Yes.

19 BY MR. DAVIS:

20 Q What were you trying to do here with Exhibit 4216?

21 A Just to show the folks of the jury that a spill of this
22 size is a really big spill. It spreads out a long, a long
23 distance. And to kind of compare it with a 6-foot-tall
24 person, that's the scale there, and a tanker truck that's
25 about 40 feet, 44 feet long.

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1 Q And how do you know, in the photograph that you placed
2 the yellow dot, what is that supposed to represent?

3 A Well, that's what we've been told is the perc loading and
4 unloading area. So somewhere in there is where a tanker
5 truck, if it had spilled that much perc, that's about where it
6 would be discharged.

7 Q And I just want to make it clear. You had indicated a
8 spill on concrete. Just so someone doesn't get the wrong
9 impression, if it makes a difference, do you remember what the
10 testimony was about the nature of the surface of the loading
11 area in the mid '70s?

12 A Yeah. It's asphalt.

13 Q Does that make any difference, then, for your
14 calculation?

15 A The spreading out on asphalt won't really make any
16 difference because it spreads so fast that there won't be time
17 for much interaction with the perc, much perc to attack the
18 asphalt. It spreads out in about a minute, but then it sits
19 there and starts to attack the asphalt.

20 Q That was my next question. What will happen under that
21 48-foot puddle or spill on asphalt?

22 A Asphalt is made up of two parts. There's the rock or the
23 gravel. We call it aggregate. And then there is the
24 hydrocarbon or the oil part. It's really the bottom of the
25 barrel of oil. After you distill and get gasoline and diesel

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1 Q And what does that calculation lead you to?

2 A A spill of that size, 500 gallons in the loading area,

3 would spread out to a diameter of about 67 feet.

4 Q And --

5 A So 1.5 times more the width of this courtroom.

6 Q Do you have a -- is there a demonstrative that

7 demonstrates that in the same fashion that the Exhibit 4216

8 does?

9 A Yes.

10 MR. DAVIS: May we see Exhibit 4217?

11 May I again approach?

12 THE COURT: Yes, you may.

13 BY MR. DAVIS:

14 Q How much of the loading area, unloading area, at the Dyce

15 facility would be impacted by a 500-gallon spill of

16 perchloroethylene?

17 A All of it plus area beyond.

18 Q Would a spill of that size be more or less likely to

19 cause the asphalt degradation, or destruction, that you've

20 described in the 250-gallon spill?

21 A It would be more likely.

22 Q How much would 500 gallons of perc spilled on the ground

23 weigh, this 68-foot diameter?

24 A Over 3.5 tons.

25 Q Would the weight have any impact on how the asphalt is

Page 1402

1 being eaten away?

2 A Well, the more perc, the deeper, the more amount of perc,

3 you would just see more damage, total, and a little bit more

4 height of the perc puddle is going to push it more into the

5 asphalt, and any cracks that might be there.

6 Q If this spill occurred offloading a tanker at 60 gallons

7 a minute, how long would it have taken to occur?

8 A About eight minutes or so.

9 Q Again, let's go to the scenario that Mr. Bender or

10 somebody else might have washed this away with the garden

11 hose. Is a garden hose going to have any effect on it?

12 A No, none at all.

13 Q While we're on that subject, what if you're washing

14 water -- I don't care whether it's a garden hose or a huge

15 fire hose or something. What kind of interaction, if any, is

16 going on between the perc and the water?

17 A Perc and water don't dissolve very much in each other, so

18 what the garden hose might do, or with any hose, it would

19 spread the perc out a little bit more to make it evaporate

20 faster. But another thing that it does, if there's any low

21 spots, if you will, depressed areas in the asphalt, the perc

22 will sit there and water will sit on top of it, and that perc

23 won't evaporate very fast. It's got the water layer on top.

24 So that perc is now free to attack the asphalt for a long time

25 without, without evaporating.

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1 Q Apart from the visual impact, would there be any

2 noticeable impact if you later stepped on it?

3 A Sure. It would be so gooey and messy that you'd get a

4 boot full of tar. It would be really a mess.

5 Q In both of these demonstratives, besides the size of the

6 spill, what else have you shown? What other images?

7 A Well, the scale there is also the tanker truck, the size

8 of a tanker truck that might have brought the perc into the

9 facility.

10 Q Why is that -- why do you have a tanker truck there?

11 A Well, to show that that size puddle or pool of perc is

12 actually going to go under the tanker truck, also under the

13 tires, specifically, of the tanker truck.

14 Q Why would that be significant in terms of no one having

15 any memory or recollection of this?

16 A We've heard testimony, and it's true, that perc will

17 attack almost all kinds of rubber. It will dissolve it.

18 That's why they had the special hose with the special liner

19 when they were moving the perc, and so the -- I'm not saying

20 that it happens instantaneously, but the perc is immediately,

21 just as soon as it starts being in contact with the rubber

22 tires, is going to start trying to break them down, trying to

23 dissolve the rubber tires.

24 Q And would you expect that process to be underway in the

25 ten minutes, at least, it takes this puddle or this pool of

Page 1404

1 perc to fill?

2 A Yes, I would.

3 Q Let me digress for a minute.

4 Did you hear Dr. Harris suggest a hose failure as a

5 likely -- offloading perc as a plausible scenario for the

6 spill to occur?

7 A Yes, I did.

8 Q Does that sound plausible to you?

9 A No, it doesn't.

10 Q Can you explain why?

11 A If there was a hose failure, the perc, again, is going

12 through there at 60 gallons per minute. It's coming out at

13 the end of the hose at 10 feet per second. There's a lot of

14 energy there, so just like if you have a really high-velocity

15 garden hose, or maybe think about a fire hose pumping the

16 water, it takes a couple of men to hold down a fire hose, that

17 is going to be whipping around. It won't be just gently

18 dripping perc on the asphalt. It will be spraying it around,

19 and the end of the hose will be whipping.

20 Q Where would you expect, in that scenario, for a

21 500-gallon spill of perc and this hose whipping around, where

22 would there be perc?

23 A It would be everywhere. It would be on the buildings.

24 It would spray on the tanker truck. It would spray on anybody

25 that was around.

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1 Q What observable aftereffects would there be for this
2 undocumented spill that no one seems to recall?

3 A Again, the perc dissolves most things that are made of
4 oil or that are oil-based. Lots of paints are oil-based. It
5 dissolves most plastics. So you would see, if it's sprayed on
6 a building that had oil-based paint, you would see it, you
7 know, dissolve or attack that. If it's sprayed on the tanker
8 truck where there was, you know, the decals or the painting,
9 you would see those damaged or destroyed. If it hit
10 electrical insulation, or as most of those are covered, most
11 of them are plastic or rubber, it would start eating away at
12 that. So you would see damage to those kinds of things.

13 Q Let's assume hypothetically there's a truck driver and a
14 warehouseman, a Dyce employee, somewhere in the vicinity of
15 the loading and unloading area while this perc hose is
16 spewing, the failed perc hose is spewing perc all about.
17 Anything, anything that could happen to those individuals that
18 ought to stick in somebody's mind?

19 A Yeah, several things could happen to them.

20 Q What?

21 A Well, perc will attack mucous membranes, eyes and nose
22 and so forth, so you get even a little bit on or near your
23 eyes or your nose, it really hurts, and you'd probably need
24 medical attention.

25 But then this perc is evaporating at the same time it's

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1 being sprayed around. You can't breathe much perc. They
2 would be gasping and probably in pretty serious danger.

3 MR. DAVIS: Let's go back. Mike, can you pull up
4 that interrogatory quickly?

5 DOCUMENT TECHNICIAN: I'm sorry?

6 MR. DAVIS: The interrogatory that was read before
7 Dr. Dale, second page, just so we have the upper end of the
8 spectrum of the spill that Soco is contending in their answer.

9 DOCUMENT TECHNICIAN: (Complied with request.)

10 BY MR. DAVIS:

11 Q Do you see there what the upper end of the spill that
12 Dyce is contending could have occurred?

13 A Yes.

14 Q Which is what?

15 A 1,000 gallons, close to 7 tons.

16 Q How much?

17 A Seven tons.

18 Q Have you been -- can you do the same type of calculation
19 in terms of the size of a 1,000-gallon perc spill in the
20 loading and unloading area that you've done for the 250- and
21 500-gallon spills?

22 A Yes.

23 Q Before -- let me back up.

24 We need to ask you about a 500-gallon spill, something
25 else about it. Let's, again, go to Dr. Harris's scenario

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1 about regardless of someone pushing it or trying to cover it
2 up, it somehow, all by itself, would flow in the direction he
3 suggests. Do you have an opinion whether or not a 500-gallon
4 spill in the loading area, as depicted on your Exhibit 4217,
5 do you have an opinion as to whether any portion of that spill
6 could end up in the green area in the northwest corner as
7 depicted in the ROD exhibit?

8 A Yes, I do.

9 Q What is your opinion, Professor?

10 A Again, I don't think that any of it could have ended up
11 there.

12 Q Why not for a 500-gallon spill?

13 A Because it would be evaporating, and the deeper the perc
14 that's flowing, the more it will tend to be pushed down into
15 the ground, so it will soak in faster. But mostly, again,
16 when it hits the end where there is no ditch, there's still a
17 hundred feet to go before it gets out there to that northwest
18 corner where the hot spots are. It's just going to spread out
19 and evaporate.

20 Q Let's move on to the 1,000-gallon scenario that Soco
21 contends could have happened.

22 How big a diameter would that spill have been?

23 A I think it's 98 feet. I don't remember the exact number.

24 Q Do you have an illustrative that does that?

25 A Yes.

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1 MR. DAVIS: Mike, can we have 4218 for the jury?

2 DOCUMENT TECHNICIAN: (Complied with request.)

3 MR. DAVIS: May I pull up the board?

4 THE COURT: Yes.

5 BY MR. DAVIS:

6 Q Did you say how many? Ninety-what feet?

7 A I said 98. It's calculated at 97.

8 Q You'll give back a foot?

9 A Yeah.

10 Q And again, how much of the loading area would have been
11 impacted?

12 A Well, all of the loading area, plus well beyond it.

13 Q Again, let me ask you about the asphalt degradation with
14 a 1,000-gallon spill of perc. How much does this puddle weigh
15 down on the asphalt? How much was it, weightwise?

16 A Well, again, just the puddle is several inches deep at
17 this point, so 3 or 4 inches deep. It's not that much more
18 weight, but there's sure a lot more amount of perc to dissolve
19 the asphalt that it touches. And it's coming out over a
20 longer time, also.

21 Q More or less asphalt degradation?

22 A More.

23 Q Again, well, let's cut to the chase again, getting back
24 to our contamination area shown in the ROD. I've got
25 1,000 gallons. Do you have an opinion as to how much of that

Page 1409

1 could have made it to the northwest corner, to the hotspots as
 2 indicated in the ROD?
 3 **A Yes, I do.**
 4 **Q** What is your opinion, Professor?
 5 **A** Again, I don't think that any of it could have made it
 6 out there. It evaporates too fast, it soaks in, and it would
 7 have left a track.
 8 **Q** Would there be any question in your mind as to the extent
 9 of this -- can you explain to the jury the extent of change to
 10 the loading area that would have been observable to just about
 11 any person with their wits about them?
 12 **A** Well, it would have been exposed to lots of perc for a
 13 long period of time. There would have been perc left in any
 14 low spots. Not all of it. Just -- you know, we've all seen
 15 water run through ditches. Perc, again, is like water in that
 16 sense. You don't just go by and nothing left, no residue of
 17 liquid left. Plus, that, it's dissolved in the asphalt. It's
 18 dissolved in a huge, working on a huge circumference or circle
 19 area of asphalt and attacking it. It's a large spill so it's
 20 spread out more. It's evaporating. You know, it just won't,
 21 it just won't get up there 400 feet away.
 22 **Q** But what's that loading area and unloading area look like
 23 after 1,000 gallons of perc has been dumped in it, in the
 24 facilities there?
 25 **A** It's a mess. It's a huge mess. Every low spot has got

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1 perc in it, and in those low pots the asphalt is dissolved,
 2 making it a tar, a gooey mess. If people go out there and
 3 drive trucks through it, they'll see that the asphalt has been
 4 destroyed. You'll see large areas of the gravel, the
 5 aggregate exposed because the perc has flowed past it,
 6 dissolved the asphalt and taken it away. I mean, it's not
 7 possible that people wouldn't see that. It's not possible
 8 that they wouldn't have observed that.
 9 **Q** Let me return finally to another property of perc, which
 10 is its odor. And let's go back to the 500-gallon spill. Is
 11 there a way to calculate for the jury how noticeable a
 12 500-gallon spill of perc would have been at the Dyce facility
 13 back in the 1970s?
 14 **A** In terms of its odor?
 15 **Q** Yes.
 16 **A** Yes, uh-huh.
 17 **Q** You can calculate that?
 18 **A** Yes, you can.
 19 **Q** Explain.
 20 **A** These are standard methods, but people can smell perc at
 21 about 50 parts per million. That's 5/1,000ths of 1 percent.
 22 So in air, 50 parts per million is 5/1,000ths of 1 percent,
 23 and that's what you and I can smell.
 24 **Q** So?
 25 **A** Well, if you calculate 500 gallons of perc evaporating,

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1 you can calculate the volume of air that that would fill up,
 2 and then so by knowing the volume of air, you know the
 3 diameter or the total distance over which a spill of perc of
 4 that size would be, would be noticeable by people.
 5 **Q** Did you do that for 500 gallons?
 6 **A** Yes, I did.
 7 **Q** And what does that translate?
 8 **A** It's a hemisphere, a bowl, that's about a little over
 9 1,000 feet in diameter from side to side. So it would fill up
 10 a hemisphere, a bowl, if you will, of air that's 1,000 feet
 11 across with perc at 50 parts per million.
 12 **MR. DAVIS:** Mike, could you pull up, from the ROD
 13 again, Exhibit 3059, page 118?
 14 **DOCUMENT TECHNICIAN:** (Complied with request.)
 15 **MR. DAVIS:** No, try 19. No, I think it was -- hard
 16 to see. Go back to 18.
 17 **DOCUMENT TECHNICIAN:** (Complied with request.)
 18 **BY MR. DAVIS:**
 19 **Q** Do you see a scale there in the lower right-hand corner
 20 of that exhibit, Professor Dale?
 21 **A** Yeah, I guess I do.
 22 **Q** Okay. And can you see, can you locate the Brenntag
 23 facility there?
 24 **A** Yes.
 25 **Q** Okay. Using that scale and using your index finger or

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1 other digit of choice, can you give this jury a rough
 2 approximation of how big an area around the Brenntag/Dyce
 3 facility in which you'd have this sphere you've just described
 4 where people would have been able to smell perc?
 5 **A** Well, the scale is 100 feet. The whole distance there is
 6 200 feet. So if you take that plus that -- sorry. Not doing
 7 too great a job here.
 8 **This distance is roughly 200 feet. So double it to make**
 9 **it 400 feet. And put that at the center of a, of a bubble**
 10 **that would be -- I'm not doing this well.**
 11 **It would be like that.**
 12 **Q** So anyone in that, that area you've drawn on this exhibit
 13 would have been able to smell a 500-gallon perc spill at the
 14 Dyce loading facility?
 15 **A** Yes. Actually that area and probably more.
 16 **Q** Let me go back to that loading and unloading area, and
 17 let's assume someone has come on the scene and wants to, in
 18 fact, cover up the spill and is trying to do something, such
 19 as wash it with a garden hose or do something. With
 20 500 gallons of perc, as they're standing there by this puddle,
 21 what would you expect to have with the odor, the fumes coming
 22 off?
 23 **A** At 50 parts per million, people can smell perc pretty
 24 easily. At a concentration 10 times that, 500 parts per
 25 million, people start to get -- actually, more susceptible

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1 people, well before then, but would get light-headed and dizzy
 2 and start to get disoriented.
 3 Q So if you had someone working around a 500-gallon spill
 4 of perc trying to channel it or do anything with it, what
 5 would you expect to happen to that person?
 6 A That person is in great danger of passing out and dying,
 7 being overcome by the fumes and being killed.
 8 Q Well, what do you recall from the witnesses you heard
 9 last week as to when the inventory -- let me back up.
 10 Did you hear Professor Harris posit that there might have
 11 been multiple spills, even though we only have one inventory
 12 shortage?
 13 A Yes, I did.
 14 Q All right. Let's assume there were four separate
 15 50-gallon spills. I think that's what the numbers were that
 16 were bandied about on Friday. Let me ask you, first of all,
 17 with regard to how that could have occurred, we're taking it
 18 down from 250 down to 50. Would there be evidence in the
 19 asphalt?
 20 A Yes. It would have damaged a lot of asphalt, also.
 21 Q Would an individual spill of 50 gallons, is there any --
 22 do you have an opinion as to whether there's any possibility
 23 that a spill of that size could make its way in the manner
 24 Professor Harris or Dr. Harris has posited from the
 25 loading/unloading area to the northwest corner?

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1 A Yes, I have an opinion.
 2 Q What's your opinion, sir?
 3 A No, it could not have done so.
 4 Q Why not?
 5 A It would have evaporated. It would have soaked in. Some
 6 of it would have stayed behind and stuck with the asphalt,
 7 dissolving the asphalt into puddles.
 8 Q Let me now move on to the last topic I want to cover with
 9 you, which is what time of year do you remember the testimony
 10 about the inventory shortages?
 11 A Mr. Naff indicates in December, so that's the last
 12 quarter of the year. The other testimony is the first quarter
 13 of the year, somewhere between January, February, and March.
 14 Wintertime, anyway.
 15 Q Okay. Back in the olden days, before global warming, do
 16 you understand -- what do you know about whether it ever got
 17 cold here in Billings, Montana back in the 1970s?
 18 A Yeah, it did.
 19 Q Would or wouldn't cold weather conditions or the
 20 variables implicit in those conditions, snow, low
 21 temperatures, ice, wind, would they have any effect on how you
 22 have described the PCE, perc, behaving in a spill?
 23 A I come to the same conclusion that I've come to
 24 otherwise. I've looked at those variables.
 25 Q Let's at least talk about temperature. What's the

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1 temperature that perc freezes?
 2 A About 8 degrees below zero Fahrenheit.
 3 Q Well, let's assume it was a really, really cold day in
 4 Billings when this spill occurred, and let's say it was 10
 5 below. Somehow they could -- I guess the truck is heated.
 6 What would happen?
 7 A Well, perc freezes at about minus 8, and, plus, it's
 8 evaporating. Even though it's cold, it can still evaporate.
 9 So when it gets out, it starts to freeze. It starts to turn
 10 into a slush, and then it doesn't flow very well at that
 11 point, so it just stays there.
 12 Q Is the degradation of the asphalt going to be any
 13 different at, say, zero than it would be at 50 or 100 degrees?
 14 A It will be slower, but it will still happen. You can
 15 dissolve a lot of sugar in iced tea even when the iced tea is
 16 cold. You can dissolve an awful lot of asphalt in perc even
 17 though it's cold.
 18 Q All right. Let's move up the scale a little bit. And
 19 again, to play to the obvious, what's the freezing temperature
 20 of water?
 21 A 32 degrees Fahrenheit.
 22 Q All right. So it's a kind of normal winter day in
 23 Billings. It's above 8 below and below 32. Any difference in
 24 your scenario in that kind of temperature range to what you've
 25 told this jury would happen with this perc spill?

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1 A It will evaporate somewhat slower because of temperature,
 2 but there are other variables.
 3 Q What do you mean?
 4 A Well, one of the things that influences the evaporation
 5 rate is the wind speed. Wind speeds in the winter are
 6 generally higher, at least the weather service says they are,
 7 than they are in the summertime.
 8 Q So what effect would that have?
 9 A It would just hasten the evaporation compared to a
 10 summertime spill, using that. The temperature would be less,
 11 so it would be a little less fast, but the wind speed could
 12 make it evaporate more.
 13 Q All right. Well, let's throw another variable in that
 14 might impact what could happen with this 250- to 1,000-gallon
 15 perc spill in the loading area. There's ice or snow on the
 16 ground back there. What's the difference, if any?
 17 A It doesn't change things.
 18 Q Why not?
 19 A Perc doesn't freeze until 8 below, 8 below zero, so it's
 20 tons and tons of perc. It's going to melt any ice or snow. I
 21 mean, even a couple 3 inches or more of ice or snow are going
 22 to be melted by tons and tons of perc.
 23 Q Then what's going to happen?
 24 A Well, again, perc is heavier than water, so the perc
 25 that's melted the water, melted the ice, is going to sink to

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1 Q And you also did that for your calculation as to how perc
2 would affect asphalt? You told us that would have a puddle,
3 3, 4 inches thick, and that's how you knew we'd get this
4 bathtub ring?
5 **A Yes, that's right.**
6 Q And again, whose testimony did you rely on in assuming
7 that it was a perfectly level surface?
8 **A My interpretation doesn't require it be perfectly level.**
9 **All it needs is asphalt and reasonably level. Not too huge a**
10 **slope.**
11 Q But you don't know what the slope was, do you?
12 **A We have estimates.**
13 Q And what are the estimates?
14 **A Well, based on the 1992 application of Dyce for a**
15 **stormwater run-off permit -- they had to apply to get a permit**
16 **for the stormwater discharge -- it's about a tenth of a**
17 **percent in that area. One foot in a thousand feet is the drop**
18 **in the area of the loading dock.**
19 Q You understand that as of 1992, that whole area had been
20 covered with concrete, and there was a concrete tank farm in
21 there?
22 **A That's correct.**
23 Q So it wasn't the same as it was in 1975; isn't that
24 correct?
25 **A I don't know how different it was.**

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1 Q You don't know what the angle was in 1975?
2 **A Well, I have an idea.**
3 Q Based on?
4 **A If you have an area where people are working, they have**
5 **to handle heavy equipment and offload trucks. You don't make**
6 **it very steep. You try to smooth it out so they'll have an**
7 **easier time with all kinds of equipment you move around. You**
8 **don't let it be steep.**
9 Q Isn't it true, Dr. Dale, that we have to rely on witness
10 testimony to establish what the angle of that
11 loading/unloading area was, what the drainage was?
12 **A I'm sorry; I didn't catch your --**
13 Q We have to rely on witness testimony to tell us what the
14 drainage of that loading and unloading area was?
15 **A No, not just on witness testimony.**
16 Q Isn't it true that your increasingly-sized circles are
17 based on a flat surface, and no witness has testified to that?
18 **A That the surface is completely flat?**
19 Q Yes.
20 **A I don't believe it to be completely flat, that's right.**
21 MR. LYNCH: I have nothing further.
22 MR. DAVIS: Just briefly.
23 THE COURT: Wait. How about -- I've been making
24 this mistake.
25 Do you have any?

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1 MR. MICKELSON: No, Your Honor, we do not.
2 THE COURT: Go ahead. You get to be first again.
3 MR. DAVIS: I won't comment.
4 REDIRECT EXAMINATION
5 BY MR. DAVIS:
6 Q Did you hear Mr. Naff or Mr. Colver -- they didn't
7 testify about 3 tons of perc pressing down on asphalt, did
8 they?
9 **A No, they didn't.**
10 Q Did the fact that Mr. Naff or Mr. Colver may have
11 observed some other drip, drip on asphalt or whatever they
12 observed -- I think Mr. Naff said he observed something at a
13 refinery -- does that have any impact on what you've told this
14 jury about the dynamics of a spill of hundreds of gallons of
15 perc in a work area where men are moving equipment around,
16 driving trucks, trying to maneuver drums, and all the other
17 activities that were going on in the Dyce loading and
18 unloading area?
19 **A No, it doesn't. It doesn't affect my opinion at all.**
20 Q And on the subject of the slope of the loading and
21 unloading area, I mean, do you recall hearing testimony about
22 which way rainwater might drip off a building?
23 **A Yes.**
24 Q All right. Does that in any way affect what you've just
25 told this jury about what common sense tells you about the

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1 slope of an industrial area where men are working with
2 motorized, with forklifts, with drums, with heavy containers
3 of chemical?
4 **A No.**
5 Q What does common sense tell you about that area?
6 **A It was basically flat with a little bit of slope to carry**
7 **water away.**
8 Q And again, Professor Dale, we talked about -- Mr. Lynch
9 asked you some questions about odor. If you put someone in
10 that unloading/loading area either with 250 gallons --
11 directly next to a 250-gallon spill of perchloroethylene, even
12 if it's flowing in one direction or another, what's happening
13 to that person?
14 **A That person is probably going to pass out and then die.**
15 **They would be overcome because of the perc vapors that are in**
16 **the area.**
17 Q And, lastly, I think -- well, Mr. Lynch asked you if
18 conditions could affect what you've said or testified about.
19 Would any variation in the conditions that he has thrown out
20 at you, frozen ground, wind blowing from the southwest, snow
21 on the ground, on the bare ground, the fact there's gravel
22 behind that small barn, would that have any impact on your
23 opinion as to how observable the aftereffects of a spill of
24 250 to 1,000 gallons of perc would be in the loading/unloading
25 area?

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United States Court Reporter

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MONTANA
BILLINGS DIVISION

UNITED STATES FIDELITY AND)
GUARANTY COMPANY,)
Plaintiff,) CV-04-29-BLG-RFC
and)
) VOLUME 7
CONTINENTAL INSURANCE COMPANY,) TRANSCRIPT OF JURY TRIAL
Plaintiff Intervenor,)
vs.)
)
SOCO WEST, INC., BRILLIANT)
NATIONAL SERVICES, INC.,)
STINNES CORPORATION, and)
BRENNTAG (HOLDING) N.V.,)
Defendants.)
_____)

BEFORE THE HONORABLE RICHARD F. CEBULL
UNITED STATES DISTRICT COURT JUDGE
FOR THE DISTRICT OF MONTANA

James F. Battin United States Courthouse
316 North 26th Street
Billings, Montana 59101
Tuesday, January 30, 2007
08:32:22 to 15:13:43

Proceedings recorded by machine shorthand
Transcript produced by computer-assisted transcription

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Mr. Monte Naff

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EXHIBITS

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1 Q "Tell me about that process.
 2 A "What we did is we always kept, since it was a designated
 3 skid, we always kept a certain level of perc in that shuttle,
 4 in that skid.
 5 Q "Why was that?
 6 A "Well, that's just the only thing it was ever used for,
 7 and it was easy for us if we kept it at the constant level.
 8 You'd load it on the truck, go off-load it. A customer would
 9 come back, weigh it, and then you could tell how much product
 10 you gave the customer, and they would just refill it at that
 11 time so it was ready to go for the next time.
 12 Q "When you came back, when the truck carrying perc came
 13 back to off-load its product back into the perc tank --
 14 A "No, we never unloaded product out of that shuttle back
 15 into the perc tank, number 1. Perc always stayed in that
 16 shuttle and the hose. That's all it was designated for, so
 17 the product stayed in there.
 18 Q "Okay. Did you ever see any spills of perc, minor or
 19 major, associated with that process of bringing the perc back?
 20 A "There was a possibility of that few drops or, you know,
 21 few ounces when somebody filled it, but there wasn't any
 22 spills as far from the skid tank itself or the hose on that
 23 skid tank.
 24 Q "Tell me about how perc came into your facility.
 25 A "Well, perc would come in on a semi-trailer, semitruck

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1 Normally the truck was never just perc alone. It was a couple
 2 of different products. They would come in and, like I say,
 3 back down into this number 5 area, and then we would off-load
 4 off of that truck either into the bulk tank or into the drums
 5 at that time.
 6 Q "Tell me about offloading into the bulk tank.
 7 A "Well, you would uncouple. On the bottom of the truck,
 8 there would be a discharge outlet. You would run a hose. You
 9 would hook a hose up to that discharge outlet to our pumps,
 10 the pump that was designated for the perc tank. And then you
 11 would suck off of that trailer into the perc tank, or you
 12 could also pump right directly into drums. And then you would
 13 unhook from that truck, and the truck would go to scale, so we
 14 knew exactly how much product we were getting.
 15 Q "Did you ever see any perc spilled during that process of
 16 unhooking from the truck?
 17 A "Yes. Several times there were a few drops or some
 18 ounces. We always tried to put -- we called them spill
 19 buckets, but it was just a bucket or half a bucket that we cut
 20 off underneath our connection so we would catch any spill if
 21 there was some ounces or drops that dripped.
 22 Q "Did you always catch everything in those buckets?
 23 A "No. There were times when some drops would hit the
 24 cement.
 25 Q "Was there ever times when it was more than just drops

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1 that hit the cement?
 2 A "The most I would ever say would be a quart.
 3 Q "And how often would that happen, a few drops or a quart,
 4 a quart?
 5 A "Very seldom. Once every few semi loads.
 6 Q "And how often did you get semi loads?
 7 A "I'd say three a summer, three a season. No, that's not
 8 a fair statement. I'd say four to five a year. That's a
 9 rough estimate.
 10 Q "Did you ever have any perc spillage associated with
 11 disconnecting the hose from your designated perc pump?
 12 A "Yes. Here again, there would be those few ounces or
 13 drops, yes.
 14 Q "Would you ever spill a quart there?
 15 A "Yes, quantities as much as a quart, but, boy, by that
 16 time you had everything shut down so there would never be
 17 quantities more than that.
 18 Q "And how often might that occur?
 19 A "Probably that same interval, once every three, four
 20 loads. Again, here, you tried to keep one of those drip
 21 buckets or spill buckets under it so you could catch it.
 22 Q "But you didn't catch it all?
 23 A "No, no.
 24 Q "Do you ever remember, what did perc do to asphalt?
 25 A "Over a long period of time, it would deteriorate it.

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1 Q "Did you ever remember seeing that process?
 2 A "No, because, like I say, perc evaporated so fast that if
 3 you spilled a cup onto the asphalt, especially, you know, on a
 4 moderate temperature day, 65 and above, it would evaporate it
 5 before it could do that deterioration.
 6 Q "How do you know that perc deteriorates asphalt?
 7 A "Over time, over time in this area where there used to be
 8 asphalt --
 9 Q "Are you indicating Area 5?
 10 A "Area No. 5. You could see deterioration of the asphalt,
 11 and that was not just from the perc. That was just over time.
 12 Anything that might have dripped onto there and the forklifts
 13 running over it and so on, so forth, so that's why they
 14 decided they better put cement there.
 15 Q "Did you observe the deterioration with your own eyes?
 16 A "Yes. I would say, you know, over the five years I was
 17 there, it was pavement, you know, in that period of time. You
 18 could see places where it might start getting roughed up, and
 19 you could see a few of the stones starting to poke up and, you
 20 know, that type of thing, but I never did see a -- you know,
 21 to where it was any worse than that.
 22 Q "Did you believe some of that was due to perc?
 23 A "I would say a combination of all the products, not just
 24 perc.
 25 Q "So it was common for other product to hit that asphalt,